

Medgar Jeffers

Senior Mechanical Engineer

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Professional Summary

A young ambitious mechanical engineer seeking a new role on a team that emphasizes core critical thinking aspects, cost-efficient practices, and a focus on innovative, progressive collaboration that ultimately puts people first.

Willing to relocate: Anywhere

Authorized to work in the US for any employer

Work Experience

Senior Mechanical Engineer

Blue Canyon Technologies-Lafayette, CO

August 2022 to July 2025

August 2022 - Present

- (2022) Direct AIT support downstairs for closeout with BLACKJACK Campaign (Multi-Million \$ gov't contract)
- Mechanical Lead for DISH DUDE (Multi-Million \$ gov't contract) (2023 - Present)
- Primary CAD Model ownership & Management of all new part creation w.r.t mission parameters
- Provide/d support in and/or create AIs to allow sufficient & succinct work orders to the floor
- Mechanical Lead for HelioSwarm (Multi-Million gov't contract) currently paused
- Aided in development of new Solidworks modeling methodologies, specifically with regards to harnessing creation and/or simplification within complex assemblies
- Led Cost savings initiatives with in-house 3D printing to both cut lead times & residual out-of-building prototyping costs
- Designed, Prototyped, and Qualified state of the art external propulsion system for Venus product line (2023-Current)
- Created Modular design to allow ease of access & modification in AIT as needed/confirmation images provided upon request
- MISC critical duties
- Spearheaded efforts for computer optimization throughout the ME department, including trade studies to evaluate gaps in performance.
- Served as 3D Rendering consult & expedite for Marketing & Comm's division w.r.t ME department, saving tens of thousands during our data migration period
- Provided HD renders of Microsat & Cubesat spacecraft for use throughout company's various marketing material

Mechanical Engineer II

Leonardo DRS-Austin, TX

February 2020 to June 2022

FEB 2020 - Present: Mechanical Engineer II, Ascendant Engineering Solutions & DRS

- Provided turn-key design services to clients vital to the defense industry with a focus on advanced gimbal design & optimization
- Used ANSYS to provide valuable structural and thermal analysis; Paired learned techniques to provide insight into opto-mechanical breadboards for high reliability, complex systems
- Acted as liquid cooling mechanical consult for key high core computing systems, providing cost-saving feedback
- Developed and prototyped simple and safe landing modules for unmanned UAVs, acting as damage prevention for expensive (+\$100000) on-board opto-mech systems
- Utilized advanced surface modeling skills in Solidworks and PTC Creo to optimize design efficacy and system efficiency
- Worked as mechanical lead under testing for cutting edge facial identification system implementation
- Reviewed BOMs against applicable QRM strategy to help prevent unnecessary component loss
- Utilized in-house prototyping for smaller parts, accounting for substantial savings in R&D phase of projects
- Designed, drafted, and assembled precision custom fixturing for lenses and other optical elements to ease manufacturability of systems

Mechanical Engineer

Fluence Bioengineering-Austin, TX

April 2017 to February 2020

APRIL 2017 - FEB 2020: Mechanical Engineer, Fluence Bioengineering

- Served as product lead/principal mechanical engineer for luminaire development; Introduced modularity to product line, optimizing margins by increasing viability in size-restrictive use cases for deployment.
- In conjunction with team, developed company's first patent-pending optical reflection device, drastically increasing light throw per fixture in growth operations
- Installed, programmed, and managed company's first conformal coating machine, safely optimizing PCB assembly yield within SMT production while reducing safety risks
- Created and implemented set of drawing standards for fixture assembly instruction, bringing clarity to manufacturing floor and adding QRM redundancies to work cells
- Designed and assembled testers for all applicable product lines; Each variant performed set of optical, electrical, and mechanical fit assessments to verify proper assembly
- Implemented and administrated first 3D model & document repository within company
- Created patent-pending full fixture automation technique for future massive cost-saving potential
- Served as primary 3D engineering liaison for lighting and test engineering groups
- Saved \$50,000+ by migrating rendering practices in-house rendering practices; Created initial professional 3D renders for marketing/sales

Valve Design Engineer/Mech Designer

National Oilwell Varco-Houston, TX

July 2014 to July 2016

JULY 2014 - JULY 2016: Mechanical Engineer, National Oilwell Varco

Valve Design Engineer (2nd Role)

- Created 3D models of existing oilfield valve configurations in conjunction with Solidworks EPDM software to aid in quotes and product management pre/post manufacturing
- Edited and created over 100 new/legacy part numbers in native company ERP system to clarify production orders for valve engineering group

Mechanical/Industrial Engineer (1st Role)

Gearbox Design Engineer-Gearbox Division

- Established procedure within Solid Edge 3D modeling software, designing and drafting new prototype for dual-input, bevel-gear gearbox for rig skids
- Oversaw installation and data acquisition for thermal imaging camera prototype to be used on tube mill welding
- Produced probability and tolerance interval plots for possible future control limit use with welding PLCs
- Created work instructions and custom fixture designs for top drive manufacturing cell to add accountability for crucial lost inventory in part transit (\$50,000+ cost accountability)
- Fully 3D modeled an industrial CNC to dynamically review internal Max/Min part clearances within ± 0.25 inches
- Ran iterative design process, finite element analysis, and advanced material study for custom top drive sub-assembly to minimize vibration in key drilling operations
- Performed tolerance stack-up checks with newly created sub-assembly in relation to 3000+ part parent assemblies

Education

Bachelor of Science in Mechanical Engineering

University of Arkansas-Fayetteville, AR

May 2014

Skills

- Process Engineering
- Manufacturing
- Microsoft VBA (6 years)
- Systems engineering
- Mechanical Design (8 years)
- Drafting
- Solidworks (9 years)
- PTC Creo (4 years)
- CAD (10+ years)
- Mechanical Engineering
- Sensors
- Plastics injection molding
- SolidEdge (3 years)
- ISO 9001
- Solidworks EPDM (2 years)
- Research & Development (7 years)
- Microsoft Office Package (8 years)
- Autodesk Inventor
- FEA (6 years)
- GD&T (5 years)

Languages

- AAVE - Fluent
- Spanish - Intermediate
- English - Fluent

Certifications and Licenses

Solidworks Certified Professional

January 2016 to Present

Successfully completed the Solidworks CSWP exam in January of 2016; Name is now listed in Solidworks directory.

Additional Information

Imported from Resume; if not previously listed:

Technical Skills

Office Suites/Tech Programming: Full Microsoft Office Suite, Minitab, VBA, Linux-based commands, C++

CAD-based Software: SolidWorks (Professional Certification), Solidworks EPDM, SolidEdge, AutoCAD, TeamCenter MRP (SIEMENS)

*Very Willing to Relocate